150078

SEARCH REQUEST FORM **Scientific and Technical Information Center - EIC2800**

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Date 4/6/05 Serial # 09/946,638 Priority Application Date 5/29/200

Your Name Thanhha Pham Examiner # 77023

AU 2813 Phone 571-272-1696 Room Jeff-7C79

In what format would you like your results? Paper is the default. PAPER DISK EMAIL

If submitting more than one search, please prioritize in order of need.

The EIC searcher normally will contact you before beginning a prior art search. If you would like to sit with a searcher for an interactive search, please notify one of the searchers.

Where have you searched ~~so far on this case~~?
Circle: USPT DWPI EPO Abs JPO Abs IBM TDB
Other:

What relevant art have you found so far? Please attach pertinent citations or Information Disclosure Statements.

What types of references would you like? Please checkmark:

Primary Refs ✓ Nonpatent Literature ✓ Other
Secondary Refs ✓ Foreign Patents ✓
Teaching Refs ✓

What is the topic, such as the **novelty**, motivation, utility, or other specific facets defining the desired **focus** of this search? Please include the concepts, synonyms, keywords, acronyms, registry numbers, definitions, structures, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract and pertinent claims.

- light emitting layer consists essentially of 2 mixed dopants PtOEt mixed with Ir(ppy)3 (See claim 1, 6, 21 and 22 for details)
- Note PtOEt detail in figure 2
Ir(ppy)3

DWG 2 of 6

(Ir(PPy)3 w PtOEP

Staff Use Only		Type of Search		Vendors	
Searcher:	Harrison	Structure (#)		STN	X
Searcher Phone:	22511	Bibliographic	X	Dialog	
Searcher Location:	STIC-EIC2800, JEF-4B68	Litigation		Questel/Orbit	
Date Searcher Picked Up:	4-6	Fulltext		Lexis-Nexis	
Date Completed:	4-6-05	Patent Family		WWW/Internet	
Searcher Prep/Rev Time:	23	Other		Other	
Online Time:	47				

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     FILE 'HCAPLUS' ENTERED AT 15:23:12 ON 06 APR 2005
                  E JP2001-0161057/PRN,AP
L1             1 SEA ABB=ON  PLU=ON  (JP2001-161057/PRN OR JP2001-161057/AP)
L2               SEL PLU=ON  L1 1- RN :       9 TERMS
L3        389715 SEA ABB=ON  PLU=ON  L2
L4             1 SEA ABB=ON  PLU=ON  L1 AND L3

     FILE 'STNGUIDE' ENTERED AT 15:23:40 ON 06 APR 2005

     FILE 'REGISTRY' ENTERED AT 15:23:58 ON 06 APR 2005
                  E PTOEP/CN
L5             9 SEA ABB=ON  PLU=ON  L2
L6             1 SEA ABB=ON  PLU=ON  L5 AND PORPHIN?
L7             1 SEA ABB=ON  PLU=ON  L5 AND IR/ELS

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L9           205 SEA ABB=ON  PLU=ON  L6
L10           37 SEA ABB=ON  PLU=ON  L8 AND L9
L11           16 SEA ABB=ON  PLU=ON  L10 AND (MIX######## OR BLEMD OR COMPOS#####
                  #### OR DOPED INTO OR HOST####(8A)GUEST####)
L12              SEL PLU=ON  L1 1- IC :       1 TERM
L13          820 SEA ABB=ON  PLU=ON  L12
L14           16 SEA ABB=ON  PLU=ON  L11 AND (L13 OR ELECTROLUM? OR EL OR LED
                  OR EMIS######## OR EMIT########)
L15           15 SEA ABB=ON  PLU=ON  L14 NOT L1
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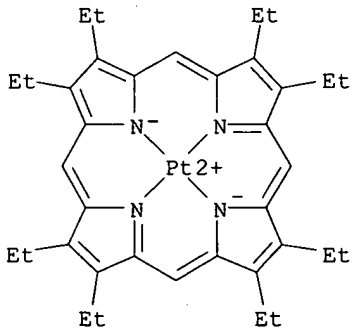
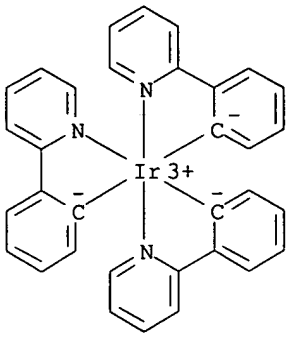
L28 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:520472 HCAPLUS
DN 135:310157
ED Entered STN: 19 Jul 2001
TI Highly efficient polymer phosphorescent light emitting devices
AU Lee, C.-L.; Lee, K. B.; Kim, J.-J.
CS Department of Materials Science and Engineering, Kwangju Institute of Science and Technology, Kwangju, Buk-Gu, 500-712, S. Korea
SO Materials Science & Engineering, B: Solid-State Materials for Advanced Technology (2001), B85(2-3), 228-231
CODEN: MSBTEK; ISSN: 0921-5107
PB Elsevier Science S.A.
DT Journal
LA English
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 76
AB The authors fabricated two kinds of phosphorescent polymer light emitting devices using two different phosphorescent emitters doped in a host polymer poly (vinylcarbazole) (PVK). Octaethylporphine platinum(II) (PtOEP) and tris(2-phenylpyridine) iridium [Ir(ppy)3] were used as the guest emitters in the devices, resp. The doping concns. of the PtOEP and [Ir(ppy)3] were 6 and 8%, resp. The emission spectra of the devices exhibited no emission from PVK, indicating that the energy transfer from PVK to guest mols. is efficient. The max. quantum efficiency was 0.6 and 1.9% at low current for PtOEP and [Ir(ppy)3] doped devices, resp. The efficiency decreased as the current increased for both devices. However, the decreasing rate was slower for the [Ir(ppy)3] doped device, which may result from the shorter triplet exciton life time of [Ir(ppy)3] than that of PtOEP. The devices showed max. brightness of 240 and 2500 cd m-2 for the PtOEP and [Ir(ppy)3] doped devices, resp.
IT **31248-39-2**, Platinum(II) octaethylporphyrin **94928-86-6**, Tris(2-phenylpyridine) iridium
RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(highly efficient polymer phosphorescent light emitting devices utilizing triplet-triplet energy transfer between host polymer and doped phosphorescent dye)
RN 31248-39-2 HCAPLUS
CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (SP-4-1)- (9CI) (CA INDEX NAME)



RN 94928-86-6 HCAPLUS
CN Iridium, tris[2-(2-pyridinyl-.kappa.N)phenyl-.kappa.C]-, (OC-6-22)- (9CI) (CA INDEX NAME)


N
C
N
Ir 3+
C
C
N

L15 ANSWER 8 OF 15 HCAPLUS COPYRIGHT ACS on STN

AN 2002:616081 DN 137:161254 ED Entered STN: 16 Aug 2002

TI Light **emitting** device and manufacturing method thereof

IN Seo, Satoshi; Yamazaki, Shunpei

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002109136	A1	20020815	US 2002-43812	20020110
	TW 519770	B	20030201	TW 2002-91100156	20020108
	JP 2002319492	A2	20021031	JP 2002-10748	20020118
PRAI	**JP 2001-10887**	**A**	**20010118**		

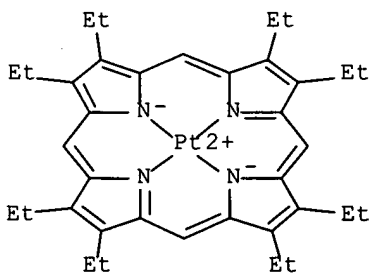
AB A org. light **emitting** device is described comprising an anode; a cathode; and an org. compd. film sandwiched between the anode and the cathode, wherein the org. compd. film comprises at least two compds. selected from the group consisting of a hole injecting compd. that receives holes from the anode; a hole transporting compd. that has a hole mobility that is larger than its electron mobility; an electron transporting compd. that has an electron mobility that is larger than its hole mobility; an electron injecting compd. that receives electrons from the cathode; and a blocking compd. capable of stopping the movement of holes or electrons, wherein the two compds. selected are materials capable of undergoing vacuum evapn., wherein the org. compd. film comprises a region in which the two compds. are **mixed**, and wherein the elec. current vs. elec. voltage property of the org. light **emitting** elements show a rectification property, wherein the org. compd. film **comprises a region in which the first and the second org. compd. are mixed**, wherein the concn. of the two compds. change within the region, or wherein the org. compd. film comprises a region in which the concn. of the first and the second org. compd. continuously changes. A method of fabricating the light **emitting** device is also described entailing providing a substrate comprising an electrode; making a vacuum chamber comprising at least first and second org. compd. evapn. sources in a reduced pressure state by reducing the pressure within the vacuum chamber to be equal to or less than 10-3 Pa; and performing evapn. of the first org. compd. in the first org. compd. evapn. source and a second org. compd. contained in the second org. compd. evapn. source on the substrate while a pump for reducing the pressure within the vacuum chamber is operated. wherein each of the first and second org. compd. evapn. sources comprises a container comprising an org. compd., and wherein the second org. compd. is evapd. next after the first org. compd. is evapd., under a state in which the first org. compd. evapn. source is not heated and in which an atm. of the first org. compd. remains within the vacuum chamber.

IT **Electroluminescent** devices

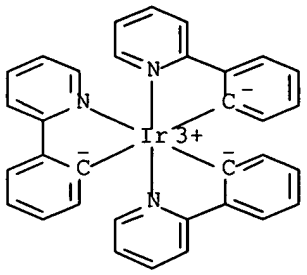
IT **31248-39-2**, (2,3,7,8,12,13,17,18-Octaethyl-21H-23H-porphyrin)platinum **94928-86-6**, Tris(2-phenylpyridine)iridium (light **emitting** device and fabrication method)

RN 31248-39-2 HCAPLUS

CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (SP-4-1)-



RN 94928-86-6 HCAPLUS
CN Iridium, tris[2-(2-pyridinyl-.kappa.N)phenyl-.kappa.C]-, (OC-6-22)- (9CI) (CA INDEX NAME)



L15 ANSWER 11 OF 15 HCAPLUS COPYRIGHT ACS on STN

AN 2002:290668 HCAPLUS

DN 136:316680

ED Entered STN: 18 Apr 2002

TI Luminescent ink for printing of organic luminescent devices

IN Li, Xiao-Chang Charles

PA Canon Kabushiki Kaisha, Japan

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6372154	B1	20020416	US 1999-476396	19991230

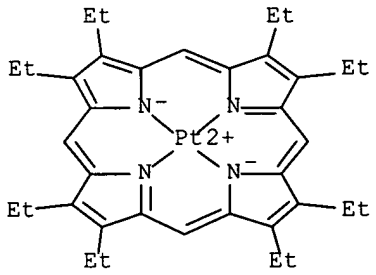
PRAI US 1999-476396 **19991230**

AB Org. luminescent ink (L-ink) is disclosed for use in printing thin films of org. luminescent material. The L-ink is particularly useful in fabricating org. optoelectronic devices, e.g. org. luminescent devices. The L-ink contains **≥ 1 org. luminescent material mixed** with a solvent and other functional additives to provide the necessary optical, electronic and morphol. properties for light-**emitting** devices (**LEDs**). The additives play an important role either for enhanced thin film printing or for better performance of the optoelectronic device. The functional additives may be chem. bound to the luminescent compds. or polymers. Luminescent org. compds., oligomers, or polymers with relatively low soln. viscosity, good thin film formability, and good charge transporting properties, are preferred. The L-inks can be cross-linked under certain conditions to enhance thin film properties. The L-ink can be used in various printing methods, such as screen printing, stamp printing, and preferably ink-jet printing (including bubble-jet printing).

IT **31248-39-2 94928-86-6**, Tris(2-phenylpyridine) iridium
(luminescent ink for printing of org. luminescent devices)

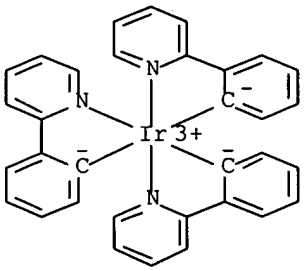
RN 31248-39-2 HCAPLUS

CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (SP-4-1)-

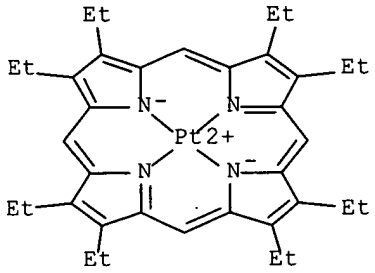


RN 94928-86-6 HCAPLUS

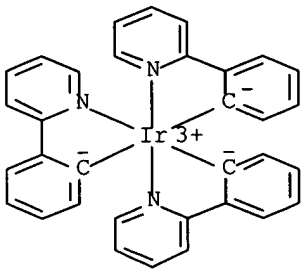
CN Iridium, tris[2-(2-pyridinyl-.kappa.N)phenyl-.kappa.C]-, (OC-6-22)-



L15 ANSWER 15 OF 15 HCAPLUS COPYRIGHT ACS on STN
AN 2000:751076 HCAPLUS
DN 134:92793
ED Entered STN: 25 Oct 2000
TI Transient analysis of organic electrophosphorescence: I. Transient analysis of triplet energy transfer
AU Baldo, M. A.; Forrest, S. R.
SO Physical Review B: Condensed Matter and Materials Physics (2000), 62(16), 10958-10966
CODEN: PRBMDO; ISSN: 0163-1829
AB The authors examine triplet-exciton dynamics in several phosphorescent org. **guest-host** systems. In this 1st of 2 papers, transient studies are used to understand triplet energy transfer between mols. and also to ascertain the relative importance under elec. injection of charge trapping and direct exciton formation on phosphorescent guest mols. As an example, the authors study the distribution of triplet excitons as they diffuse through amorphous films of tris(8-hydroxyquinoline) Al (Alq3). Triplet transport in Alq3 is dispersive, and for high concns. of triplets the authors find an av. lifetime of .tau.=25 .+-. 15 .mu.s and a diffusion coeff. of DT = (8 .+-. 5).times.10-8 cm2/s. The understanding of the formation and transport of triplets in a host material is extended in the following paper [Phys. Rev. B 62, 10,967(2000)] to the study of nonlinearities in the **electroluminescent** decay of phosphorescent org. guest materials. Finally, the authors summarize the principle determinants of the efficiency of org. electrophosphorescent devices.
IT Luminescence, **electroluminescence**
(phosphorescence; exciton formation and triplet diffusion in org. **guest-host** systems studied by)
IT **31248-39-2 94928-86-6**, Tris(2-phenyl-pyridine)iridium
(transient anal. of triplet energy transfer in org. **guest-host** systems contg.)
RN 31248-39-2 HCAPLUS
CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (SP-4-1)-



RN 94928-86-6 HCAPLUS
CN Iridium, tris[2-(2-pyridinyl-.kappa.N)phenyl-.kappa.C]-, (OC-6-22)-



L15 ANSWER 14 OF 15 HCAPLUS COPYRIGHT ACS on STN

AN 2000:751077 HCAPLUS

DN 134:107416

ED Entered STN: 25 Oct 2000

TI Transient analysis of organic electrophosphorescence. II. Transient analysis of triplet-triplet annihilation

AU Baldo, M. A.; Adachi, C.; Forrest, S. R.

SO **Physical Review B: Condensed Matter and Materials Physics (2000), 62(16),** 10967-10977
CODEN: PRBMDO; ISSN: 0163-1829

PB American Physical Society

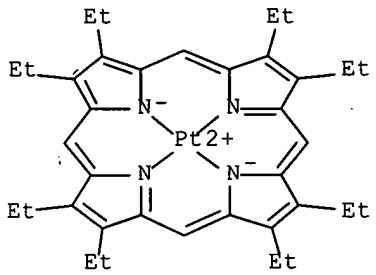
AB In the preceding paper, Paper I [Phys. Rev. B 62, 10,958(2000)], the authors studied the formation and diffusion of excitons in several phosphorescent **guest-host** mol. org. systems. The obsd. decrease in electrophosphorescent intensity in org. light-**emitting** devices at high current densities (1998) is principally due to triplet-triplet annihilation. Using parameters extd. from transient phosphorescent decays, the authors model the quantum efficiency vs. current characteristics of electrophosphorescent devices. The increase in luminance obsd. for phosphors with short excited-state lifetimes is due primarily to reduced triplet-triplet annihilation. The authors also derive an expression for a limiting c.d. (J0) above which triplet-triplet annihilation dominates. The expression for J0 allows one to establish the criteria for identifying useful phosphors and to assist in the optimized design of electrophosphorescent mols. and device structures.

IT **Electroluminescent** devices
(transient anal. of triplet-triplet annihilation in relation to)

IT **31248-39-2**
(transient anal. of triplet-triplet annihilation of compds. contg.)

RN 31248-39-2 HCAPLUS

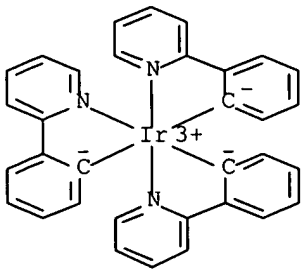
CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (SP-4-1)-



IT **94928-86-6**, Tris(2-phenyl-pyridine)iridium
RL: PRP (Properties)
(transient anal. of triplet-triplet annihilation of compds. contg.)

RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-.kappa.N)phenyl-.kappa.C]-, (OC-6-22)-



L15 ANSWER 4 OF 15 HCAPLUS COPYRIGHT ACS on STN

AN 2002:928080 DN 138:17951

ED Entered STN: 06 Dec 2002

TI Organometallic compounds and **emission**-shifting organic electrophosphorescence

IN Lamansky, Sergey; Thompson, Mark E.; Adamovich, Vadim; Djurovich, Peter

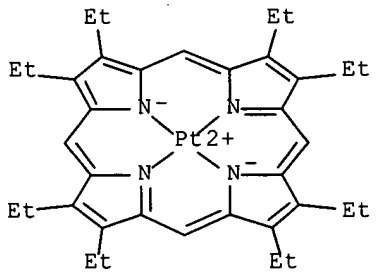
PA Trustees of Princeton University, USA

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002182441	A1	20021205	US 2001-978455	20011016
	TW 593625	B	20040621	TW 2001-90119946	20010813
PRAI	**US 2000-637766**	**A2**	**20000811**		
	US 2001-283814P	P	20010413		

AB Org. light-**emitting** devices including an **emissive** layer comprising an organometallic compd. are described in which the organometallic compd. comprises a heavy transition metal (e.g., Os, Ir, Pt, or Au) that produces an efficient phosphorescent **emission** at room temp. from a **mixt.** of metal-to-ligand charge transfer and .pi.-.pi.* ligand states; .gtoreq.1 mono-anionic bidentate carbon-coordination ligand bound to the heavy transition metal, the ligand(s) being substituted with an electron-donating substituent and/or an electron-withdrawing substituent which shifts the **emission**, relative to the unsubstituted ligand, to either the blue, green, or red region of the visible spectrum; and .gtoreq.1 non-monoanionic bidentate carbon-coordination ligand bound to the heavy transition metal which ligand(s) causes the **emission** to have a well defined vibronic structure. The organometallic compds. are also claimed.

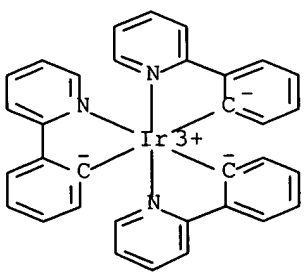
IT **Electroluminescent** devices
(org.; org. light-**emitting** devices using **emission** shifting organometallic complexes and the complexes)

IT **31248-39-2 94928-86-6**, fac-Tris(2-phenylpyridine)iridium
RL: DEV (Device component use); USES (Uses)
(org. light-**emitting** devices using **emission** shifting organometallic complexes and the complexes)
.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (SP-4-1)-



RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-.kappa.N)phenyl-.kappa.C]-, (OC-6-22)-



L15 ANSWER 5 OF 15 HCAPLUS COPYRIGHT ACS on STN

AN 2002:925572 HCAPLUS
DN 138:17926
ED Entered STN: 06 Dec 2002
TI Organic **electroluminescent** device
IN Tsuge, Hodaka; Komatsuzaki, Akihiro
PA Honda Motor Co., Ltd., Japan

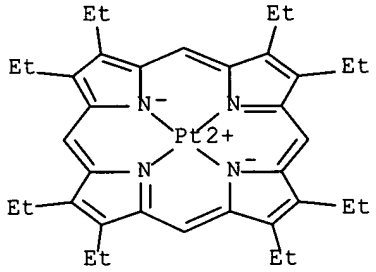
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002352957	A2	20021206	JP 2001-154291	20010523

PRAI JP 2001-154291 **20010523**

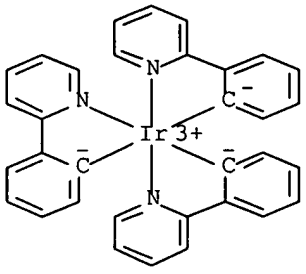
AB The invention relates to an org. **electroluminescent** device comprising an **host-guest electroluminescent** layer prepd. by a wet method, wherein the compd. contg. 1,3,4-oxadiazol or 1,3,4-triazol group is used as a host agent for facilitating the film forming by a wet coating technique.

IT **31248-39-2 94928-86-6**
RL: DEV (Device component use); USES (Uses)
(org. **electroluminescent** device having **electroluminescent** layer prepd. by wet coating method)

RN 31248-39-2 HCAPLUS
CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (SP-4-1)-



RN 94928-86-6 HCAPLUS
CN Iridium, tris[2-(2-pyridinyl-.kappa.N)phenyl-.kappa.C]-, (OC-6-22)-



L15 ANSWER 6 OF 15 HCAPLUS COPYRIGHT ACS on STN

AN 2002:830080 HCAPLUS

DN 137:330889

ED Entered STN: 31 Oct 2002

TI MOCVD, its apparatus, **electroluminescent** devices manufactured thereby, and displays therewith

IN Yamazaki, Shunpei; Seo, Satoshi; Shibata, Noriko

PA Semiconductor Energy Laboratory Co., Ltd., Japan

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002317262	A2	20021031	JP 2002-23528	20020131
	US 2003010288	A1	20030116	US 2002-72310	20020205
	CN 1369900	A	20020918	CN 2002-104561	20020208
	US 2004154542	A1	20040812	US 2004-769907	20040203
PRAI	**JP 2001-32997**	**A**	**20010208**		
	US 2002-72310	B3	20020205		

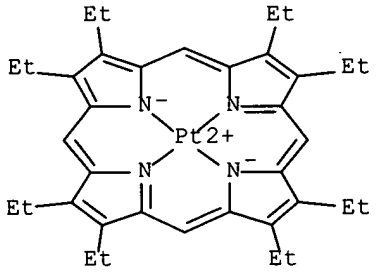
AB Low-threshold and long-life **LED** (**electroluminescent** devices/displays) are manufd. by MOCVD in app. having vacuum chambers that possess electrolytically polished inner surfaces (to av. roughness .ltoreq.5 nm) , two dissimilar exhausters, and two dissimilar sources. The sources are evapd. simultaneously while being varied continuously in concn. to form multilayers of dissimilar (metal)org. films having **mixing** regions. **LED** manufd. as above show low energy potential in the (metal)org. multilayers, thereby exhibiting high carrier injection efficiency.

IT **Electroluminescent** devices
(MOCVD app. for long-life and low-threshold color **LED** having metalorg. multilayers with **mixing** regions)

IT **31248-39-2**, 2,3,7,8,12,13,17,18-Octaethyl-21H,23H-porphyrinplatinum **94928-86-6**, Tris(2-phenylpyridine)iridium
(**emitting** layers; MOCVD app. for long-life and low-threshold color **LED** having metalorg. **multilayers with mixing regions)**

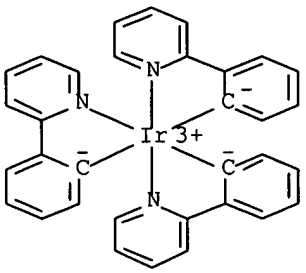
RN 31248-39-2 HCAPLUS

CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (SP-4-1)-



RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-.kappa.N)phenyl-.kappa.C]-, (OC-6-22)-



L15 ANSWER 7 OF 15 HCAPLUS COPYRIGHT ACS on STN

AN 2002:754786 HCAPLUS

DN 137:270943

ED Entered STN: 04 Oct 2002

TI Deposition apparatus and method for manufg. an org. luminescent element which requires a lower drive voltage and has a longer life

IN Yamazaki, Shunpei; Seo, Satoshi; Mizukami, Mayumi

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002139303	A1	20021003	US 2002-62005	20020131
CN 1369573	A	20020918	CN 2002-103325	20020131
JP 2002302757	A2	20021018	JP 2002-22741	20020131
TW 552650	B	20030911	TW 2002-91101696	20020131
PRAI JP 2001-26184	A	20010201		

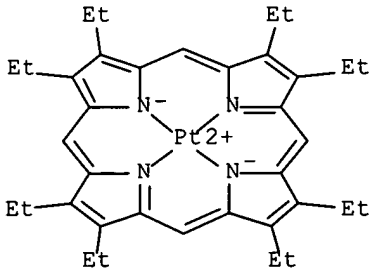
AB A deposition app. is provided for manufg. an org. compd. layer having a plurality of function regions. The deposition app. includes a plurality of evapn. sources within a deposition chamber, for enabling continuous formation of resp. function regions comprised of org. compds. and, further, formation of a **mixed** region at an interface between adjacent ones of the function regions. With the deposition app. having such fabrication chamber, it is possible to prevent impurity contamination between the functions regions and further possible to form an org. compd. layer with an energy gap relaxed at the interface.

IT **Electroluminescent** devices
(thin-film; deposition app. and method for manufg. luminescent element having plurality of function regions)

IT **31248-39-2**, 2,3,7,8,12,13,17,18-Oc-taethyl-21H,23H-porphyrin-platinum **94928-86-6**, Tris (2-phenylpyridine)iridium
(luminescent ability; deposition app. and method for manufg. luminescent element having plurality of function regions)

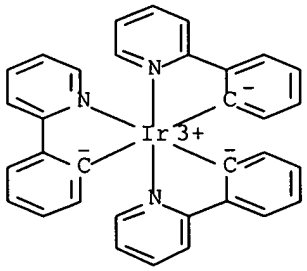
RN 31248-39-2 HCAPLUS

CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (SP-4-1)-



RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-.kappa.N)phenyl-.kappa.C]-, (OC-6-22)-



L15 ANSWER 12 OF 15 HCAPLUS COPYRIGHT ACS on STN

AN 2002:143099 DN 136:191506 ED Entered STN: 22 Feb 2002

TI Organometallic compounds and **emission**-shifting organic electrophosphorescence

IN Lamansky, Sergey; Thompson, Mark E.; Adamovich, Vadim; Djurovich, Peter

PA The Trustees of Princeton University, USA; The University of Southern California; Universal Display Corporation

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002015645	A1	20020221	WO 2001-US25108	20010810
	AU 2001083274	A5	20020225	AU 2001-83274	20010810
	EP 1325671	A1	20030709	EP 2001-962061	20010810
	JP 2004506305	T2	20040226	JP 2002-519380	20010810
	TW 593625	B	20040621	TW 2001-90119946	20010813
PRAI	**US 2000-637766**	**A**	**20000811**		
	US 2001-283814P	P	20010413		
	WO 2001-US25108	W	20010810		

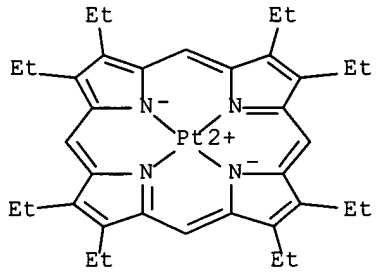
AB Org. light-**emitting** devices including an **emissive** layer comprising an organometallic compd. are described in which the organometallic compd. comprises a heavy transition metal (e.g., Os, Ir, Pt, or Au) that produces an efficient phosphorescent **emission** at room temp. from a **mixt.** of metal-to-ligand charge transfer and .pi.-.pi.* ligand states; .gtoreq.1 mono-anionic bidentate carbon-coordination ligand bound to the heavy transition metal, the ligand(s) being substituted with an electron-donating substituent and/or an electron-withdrawing substituent which shifts the **emission**, relative to the unsubstituted ligand, to either the blue, green, or red region of the visible spectrum; and .gtoreq.1 non-monoanionic bidentate carbon-coordination ligand bound to the heavy transition metal which ligand(s) causes the **emission** to have a well defined vibronic structure. The organometallic compds. are also claimed.

IT **Electroluminescent** devices
(org.; org. light-**emitting** devices using **emission** shifting organometallic complexes and the complexes)

IT **31248-39-2 94928-86-6**, fac-Tris(2-phenylpyridine)iridium
(org. light-**emitting** devices using **emission** shifting organometallic complexes and the complexes)

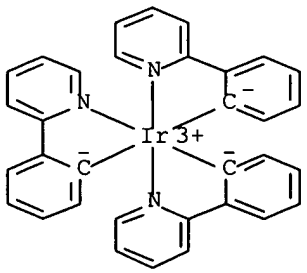
RN 31248-39-2 HCAPLUS

CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (SP-4-1)-



RN 94928-86-6 HCAPLUS

CN Iridium, tris[2-(2-pyridinyl-.kappa.N)phenyl-.kappa.C]-, (OC-6-22)-



L15 ANSWER 13 OF 15 HCAPLUS COPYRIGHT ACS on STN

AN 2002:66774 HCAPLUS

DN 136:126314

ED Entered STN: 24 Jan 2002

TI Luminescence device

IN Tsuboyama, Akira; Okada, Shinjiro; Takiguchi, Takao; Moriyama, Takashi; Kamatani, Jun

PA Canon Kabushiki Kaisha, Japan

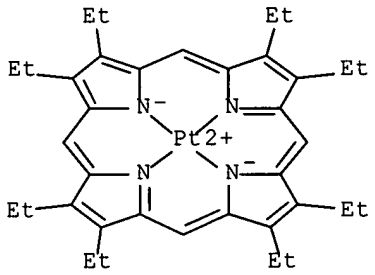
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1175129	A1	20020123	EP 2001-117367	20010718
JP 2002043056	A2	20020208	JP 2000-218321	20000719
US 2002038860	A1	20020404	US 2001-904505	20010716
PRAI JP 2000-218321	A	20000719		

AB **Electroluminescent** devices are described which comprise a pair of electrodes sandwiching an active layer comprising a **mixt.** of a liq. crystal compd. with a phosphorescent compd. The liq. crystal compd. may have a discotic phase or a smectic phase; the phosphorescent compd. preferably has a planar mol. skeleton. The liq. crystal may also be phosphorescent. The liq. crystals aid carrier transport.

IT **31248-39-2**, Platinum octaethylporphyrin **94928-86-6**
(**electroluminescent** devices using phosphorescent compds. in liq. crystal hosts)

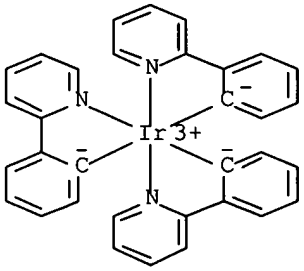
RN 31248-39-2 HCAPLUS

CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (SP-4-1)-

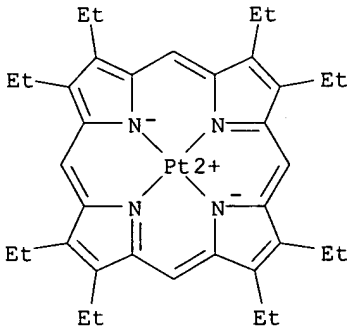


RN 94928-86-6 HCAPLUS

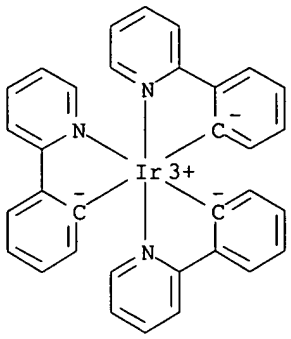
CN Iridium, tris[2-(2-pyridinyl-.kappa.N)phenyl-.kappa.C]-, (OC-6-22)-



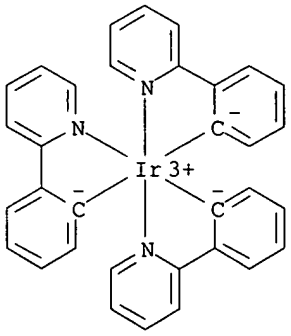
L28 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:6947 HCAPLUS
DN 134:185686
ED Entered STN: 04 Jan 2001
TI Material transport regimes and mechanisms for growth of molecular organic thin films using low-pressure organic vapor phase deposition
AU Shtein, Max; Gossenberger, Herman F.; Benziger, Jay B.; Forrest, Stephen R.
CS Center for Photonics and Optoelectronic Materials and Department of Chemical Engineering, Princeton University, Princeton, NJ, 08544, USA
SO Journal of Applied Physics (2001), 89(2), 1470-1476
CODEN: JAPIAU; ISSN: 0021-8979
PB American Institute of Physics
DT Journal
LA English
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74, 75, 76
AB The authors det. the phys. mechanisms controlling the growth of amorphous org. thin films by the process of low-pressure org. vapor phase deposition (LP-OVPD). In LP-OVPD, multiple host and dopant mol. sources are introduced into a hot wall reactor via several injection barrels using an inert carrier gas, allowing for controlled film growth rates exceeding 10 .ANG./s. The temp. and carrier flow rate for each source can be independently regulated, allowing considerable control over dopant concn., deposition rate, and thickness uniformity of the thin films. The rate of film deposition is limited either by the rate of condensation on the substrate or by the rate of supply from the source. The source-limited regime can be further classified into equil. or kinetically limited evapn., coupled to convection- or diffusion-limited deposition. Models are developed to relate the rate of film growth to source and substrate temp., and carrier gas flow rate. These models characterize and predict the performance of the LP-OVPD system used to grow high performance org. light emitting devices.
IT **31248-39-2**, Platinum octaethylporphyrin **94928-86-6**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(material transport regimes and mechanisms for growth of mol. org. thin films using low-pressure org. vapor phase deposition)
RN 31248-39-2 HCAPLUS
CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (SP-4-1)- (9CI) (CA INDEX NAME)



RN 94928-86-6 HCAPLUS
CN Iridium, tris[2-(2-pyridinyl-.kappa.N)phenyl-.kappa.C]-, (OC-6-22)- (9CI) (CA INDEX NAME)

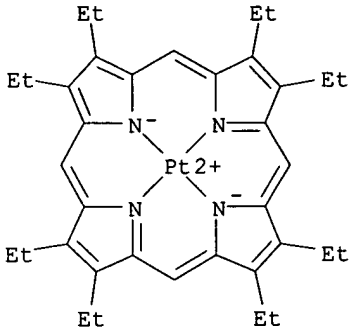

N
N
C
Ir 3+
C
C
N

L28 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:400126 HCAPLUS
DN 135:187081
ED Entered STN: 05 Jun 2001
TI High-efficiency organic electrophosphorescent devices
AU Thompson, Mark E.; Zhou, Theodore X.; Lamansky, Sergey; Djurovich, Peter; Murphy, Drew; Abdel-Razaq, Feras; Forrest, Stephen R.; Baldo, Marc A.; Burrows, Paul E.; Adachi, Chihaya; Michalski, Lech; Rajan, Kamala; Brown, Julie J.
CS Department of Chemistry, University of Southern California, Los Angeles, CA, 90089, USA
SO Proceedings of SPIE-The International Society for Optical Engineering (2001), 4105(Organic Light-Emitting Materials and Devices IV), 119-124
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 22
AB Satd. red, orange, yellow and green OLEDs were fabricated using phosphorescent dopants. Using phosphorescence based emitters the inherent 25% upper limit on emission obsd. for traditional fluorescence based systems was eliminated. The quantum efficiencies of these devices are quite good, with measured external efficiencies >15% and >40 lum/W (green) in the best devices. The phosphorescent dopants in these devices are heavy metal contg. mols. (i.e. Pt, and Ir), prepd. as both metalloporphyrins and organometallic complexes. The high level of spin orbit coupling in these metal complexes gives efficient emission from triplet states. In addn. to emission from the heavy metal dopant, it is possible to transfer the exciton energy to a fluorescent dye, by Forster energy transfer. The heavy metal dopant in this case acts as a sensitizer, using both singlet and triplet excitons to efficiently pump a fluorescent dye. The important parameters in designing electrophosphorescent OLEDs as well as their strengths and limitations are discussed. Accelerated aging studies, on packaged devices, showed that phosphorescence based OLEDs can have very long device lifetimes.
IT **94928-86-6**, Tris(2-phenylpyridine)iridium
RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(high-efficiency org. electrophosphorescent devices contg.)
RN 94928-86-6 HCAPLUS
CN Iridium, tris[2-(2-pyridinyl-.kappa.N)phenyl-.kappa.C]-, (OC-6-22)- (9CI) (CA INDEX NAME)



IT **31248-39-2**, 2,3,7,8,12,13,17,18-Octaethyl-21H,23H-porphyrinplatinum
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(high-efficiency org. electrophosphorescent devices contg.)

RN 31248-39-2 HCAPLUS
CN Platinum, [2,3,7,8,12,13,17,18-octaethyl-21H,23H-porphinato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, (SP-4-1)- (9CI) (CA INDEX NAME)



Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	2375	phenylpyridineiridium or phenylpyridine or (Ir adj PPY$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/04/06 13:54
L4	128	3 same (porphine or porphineplatinum or PtOEP)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/04/06 13:55
L5	128	4 and (electrolumines$6 or emit$6)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/04/06 13:55
L6	23	5 and (@ad<="20010529" or @rlad<="20010529")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/04/06 13:56

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	6	(spin$6 near5 convers$6) and ((light or photon) near5 (molecule or particle or dopant)) and electroluminescen$6	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/04/06 13:10

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	4	(spin$6 near5 convers$6) and ((emitt$6) near5 (molecule or particle or dopant)) and electroluminescen$6	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/04/06 13:10